

ABSTRACT OF THE DISCLOSURE

A creep-resistant and chemical-resistant ceramic refractory composition includes a mixed oxide of the general formula $R_3Al_5O_{12}$ where R is at least one of Dy, Ho, Y, Er, Tm, Yb, and Lu, the mixed oxide having a garnet structure and comprising in solid solution at least one dopant of a transition metal element and a rare-earth element, which effects in the composition enhanced optical emission in at least one spectral range.

Symbol	Unit	Symbol	Unit	Symbol	Unit	Symbol	Unit	Symbol	Unit
ρ	kg m ⁻³	μ	kg m ⁻³	σ	kg m ⁻³	τ	kg m ⁻³	η	kg m ⁻³
ρ_0	kg m ⁻³	μ_0	kg m ⁻³	σ_0	kg m ⁻³	τ_0	kg m ⁻³	η_0	kg m ⁻³
ρ_1	kg m ⁻³	μ_1	kg m ⁻³	σ_1	kg m ⁻³	τ_1	kg m ⁻³	η_1	kg m ⁻³
ρ_2	kg m ⁻³	μ_2	kg m ⁻³	σ_2	kg m ⁻³	τ_2	kg m ⁻³	η_2	kg m ⁻³
ρ_3	kg m ⁻³	μ_3	kg m ⁻³	σ_3	kg m ⁻³	τ_3	kg m ⁻³	η_3	kg m ⁻³
ρ_4	kg m ⁻³	μ_4	kg m ⁻³	σ_4	kg m ⁻³	τ_4	kg m ⁻³	η_4	kg m ⁻³
ρ_5	kg m ⁻³	μ_5	kg m ⁻³	σ_5	kg m ⁻³	τ_5	kg m ⁻³	η_5	kg m ⁻³
ρ_6	kg m ⁻³	μ_6	kg m ⁻³	σ_6	kg m ⁻³	τ_6	kg m ⁻³	η_6	kg m ⁻³
ρ_7	kg m ⁻³	μ_7	kg m ⁻³	σ_7	kg m ⁻³	τ_7	kg m ⁻³	η_7	kg m ⁻³
ρ_8	kg m ⁻³	μ_8	kg m ⁻³	σ_8	kg m ⁻³	τ_8	kg m ⁻³	η_8	kg m ⁻³
ρ_9	kg m ⁻³	μ_9	kg m ⁻³	σ_9	kg m ⁻³	τ_9	kg m ⁻³	η_9	kg m ⁻³
ρ_{10}	kg m ⁻³	μ_{10}	kg m ⁻³	σ_{10}	kg m ⁻³	τ_{10}	kg m ⁻³	η_{10}	kg m ⁻³
ρ_{11}	kg m ⁻³	μ_{11}	kg m ⁻³	σ_{11}	kg m ⁻³	τ_{11}	kg m ⁻³	η_{11}	kg m ⁻³
ρ_{12}	kg m ⁻³	μ_{12}	kg m ⁻³	σ_{12}	kg m ⁻³	τ_{12}	kg m ⁻³	η_{12}	kg m ⁻³
ρ_{13}	kg m ⁻³	μ_{13}	kg m ⁻³	σ_{13}	kg m ⁻³	τ_{13}	kg m ⁻³	η_{13}	kg m ⁻³
ρ_{14}	kg m ⁻³	μ_{14}	kg m ⁻³	σ_{14}	kg m ⁻³	τ_{14}	kg m ⁻³	η_{14}	kg m ⁻³
ρ_{15}	kg m ⁻³	μ_{15}	kg m ⁻³	σ_{15}	kg m ⁻³	τ_{15}	kg m ⁻³	η_{15}	kg m ⁻³
ρ_{16}	kg m ⁻³	μ_{16}	kg m ⁻³	σ_{16}	kg m ⁻³	τ_{16}	kg m ⁻³	η_{16}	kg m ⁻³
ρ_{17}	kg m ⁻³	μ_{17}	kg m ⁻³	σ_{17}	kg m ⁻³	τ_{17}	kg m ⁻³	η_{17}	kg m ⁻³
ρ_{18}	kg m ⁻³	μ_{18}	kg m ⁻³	σ_{18}	kg m ⁻³	τ_{18}	kg m ⁻³	η_{18}	kg m ⁻³
ρ_{19}	kg m ⁻³	μ_{19}	kg m ⁻³	σ_{19}	kg m ⁻³	τ_{19}	kg m ⁻³	η_{19}	kg m ⁻³
ρ_{20}	kg m ⁻³	μ_{20}	kg m ⁻³	σ_{20}	kg m ⁻³	τ_{20}	kg m ⁻³	η_{20}	kg m ⁻³
ρ_{21}	kg m ⁻³	μ_{21}	kg m ⁻³	σ_{21}	kg m ⁻³	τ_{21}	kg m ⁻³	η_{21}	kg m ⁻³
ρ_{22}	kg m ⁻³	μ_{22}	kg m ⁻³	σ_{22}	kg m ⁻³	τ_{22}	kg m ⁻³	η_{22}	kg m ⁻³
ρ_{23}	kg m ⁻³	μ_{23}	kg m ⁻³	σ_{23}	kg m ⁻³	τ_{23}	kg m ⁻³	η_{23}	kg m ⁻³
ρ_{24}	kg m ⁻³	μ_{24}	kg m ⁻³	σ_{24}	kg m ⁻³	τ_{24}	kg m ⁻³	η_{24}	kg m ⁻³
ρ_{25}	kg m ⁻³	μ_{25}	kg m ⁻³	σ_{25}	kg m ⁻³	τ_{25}	kg m ⁻³	η_{25}	kg m ⁻³
ρ_{26}	kg m ⁻³	μ_{26}	kg m ⁻³	σ_{26}	kg m ⁻³	τ_{26}			